

REMARKS

By the above actions, none of the existing claims has been amended, and three new claims 18-20 have been added. In view of these actions and the following remarks, further consideration of this application is now requested.

It is understood that the finality of the August 8, 2003, Office Action has been withdrawn pursuant to applicants' petition.

Turning now to the merits of the Office Action, claims 1-7, 9, 10 and 13-17 have been rejected under 35 U.S.C. § 102 based on U.S. Patent No. 6,049,378 to Busch et al. (hereinafter Busch) while claims 8, 11 and 12 have been rejected under 35 U.S.C. § 103 as being obvious Busch in view of U.S. Patent No. 4,553,335 to Woyton. These rejections are respectfully traversed for at least the reasons provided below.

Busch is directed to the measurement of the spatial position of rollers or other mutually adjacent articles by indirect transport of a reference direction. An adaptor, equipped with a light source for emitting a light beam substantially parallel to the axis of rotation of the roller, is placed on one of the rollers. The light beam is then sensed by a moveable sensor unit, wherein the moveable sensor unit determines the angle of incidence of the light beam according to two axes, relative to the sensor unit. (See Abstract).

In contrast, the presently claimed invention as set forth in claim 1, for example, is directed to a process for determining the alignment of a body mounted to rotate around a lengthwise axis of the body during the course of which the position measurement probe calibrated relative to a reference direction using a coordinate system that is not only external to the mounted body to be aligned, but is also fixed relative to the body, i.e.; not only is the position of the coordinate system relative to the body constant, but so is its orientation, so that, when the body is rotated, the coordinate system coordinate system with it. The measurement probe is attached on the end face of the body or at a longitudinal axis of the body on a surface essentially parallel to the end face of the body. Position measurements are then performed in at least three measurement positions, each of which differs from the others by an angle of rotation of the body around the lengthwise axis of the body. An evaluation means is used to compute the alignment of the body with respect to the reference direction from the measurement data gathered from the at least three measurement positions relative to said coordinate system. The cited portions of Busch do not disclose or suggest these features.

For example, the portions of Busch cited by the Examiner do not disclose or suggest attaching the measurement probe on the end face of the body or at a longitudinal axis of the body on a surface essentially parallel to the end face of the body, as currently recited in independent claims 1, 18 & 20. In rejecting this feature, the Office Action refers to Fig. 3 and appears to rely upon position measurement probe 60 (Office Action, page 3). Applicants respectfully submit that the Busch patent does not, in fact, teach this feature. As illustrated in Fig. 3 of Busch, an adaptor 30, equipped with a light source for emitting a light beam substantially parallel to the axis of rotation of the roller, is placed on the periphery of one of the rollers. Also, the light beam is sensed by a movable sensor unit 40 that is supported on a stand. Furthermore, element 60 is a position indicating sensor located on the position sensing element 45 for determining the direction of an impinging light beam (see column 2, lines 45-55 and column 4, lines 28-47). Thus, Applicants can find no teaching of attaching the measurement probe on the end face of the body or at a longitudinal axis of the body on a surface essentially parallel to the end face of the body, as currently recited in independent claim 1 and new claims 18 & 20.

Further, Busch does not disclose or suggest performing position measurements in at least three measurement positions, each of which differs from the others by an angle of rotation of the body around the lengthwise axis of the body as recited in the independent claims. For a teaching of this feature, the Examiner refers to column 12, lines 12-25 for support; however, it is unclear what the Examiner had in mind the Busch patent does not have twelve columns of disclosure, ending at column 6. On the other hand, as described in column 2 line 65 to column 3, line 3, it is taught to determine "in successive sequence the alignment of a first, second etc. body in a laboratory coordinate system, and specifically by means of a relatively small-volume sensor part..." Such a volume sensor part does not perform the position measurements in at least three measurement positions, as set forth in the claims of the present application. In the absence of any valid disclosure of this claimed step, it is submitted that the independent claims are allowable for this additional reason.

For at least the foregoing reasons, Applicants submit that claims 1, 18 and 20 are patentable over the Busch patent. Independent claims 9 and 14-16, contain similar features to claim 1 and Applicants respectfully submit are allowable for at least the reasons provided above with respect to independent claim 1.

Additionally, claims 2-7 and 17 depend from claim 1, and 10 and 13 depend from claim 9. Therefore, Applicants submit that these claims are patentable for at least the reasons discussed with respect to the independent claims, as well as for reasons of their own.

In the Office Action, claims 8, 11 and 12 are rejected under 35 USC § 103 based on the combination of the Busch patent with the Woyton patent, the Woyton patent being relied upon for its disclosure of an alignment device comprising a magnet for securing the device to the body or surface. Applicants respectfully submit that there is no proper motivation to combine the teachings of Busch and Woyton and in fact, their teachings are incompatible. That is the Busch stand 40 is not attached to any part of the roller assembly and the adapter 30 carrying the sending unit is merely fitted on the outer periphery of the roller in a manner that allows its orientation to change relative to the roller as the roller is rotated (as is necessary for the sending unit to continue to be received by the receiving unit on stand 40). With regard to the rejection, As such, one of ordinary skill would not apply the magnet teachings of Woyton to either the sending or receiving units of Busch since the use of magnets in combination with a rigid attachment as taught by Woyton (see below) is incompatible with the teachings of Busch. As noted in MPEP § 2145, "[i]t is improper to combine references where the references teach away from their combination."

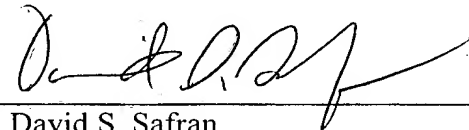
Furthermore, Woyton teaches away from the present invention in that Woyton teaches the use of magnets (as a secondary attachment in addition to screws 70) in a manner which provides magnetic attraction in "both radial and axial directions from both right and left sides of the base portion 60" which "must be rigidly secured to the hub or similar structure to provide the stability and position necessary for accurate measurements" (column 5, lines 2-15). Such a teaching is clearly contrary to that of presently claimed invention which calls for magnetic attachment to an end face of a cylindrical body where Woyton's multidirectional attraction would not be achievable. Thus, the Examiner's reliance on Woyton is improper because it is a well-established principle that a reference that teaches away from the claimed invention cannot be used to establish a prima facie case of obviousness. Accordingly, Applicants submit that Woyton and Busch cannot be combined in the manner proposed in the Office Action to achieve the presently claimed invention. Furthermore, even if magnets were used to attached Busch's stand as proposed by the Examiner, the result would still differ from the present invention in all of the manners indicated above. As such, this rejection should also be withdrawn and such action is requested.

The prior art that has been cited, but not applied by the Examiner has been taken into consideration during formulation of this response. However, since this art was not considered by the Examiner to be of sufficient relevance to applying against any of the claims, no detailed comments thereon is believed to be warranted at this time.

While the present application is now believed to be in condition for allowance, should the Examiner find some issue to remain unresolved, or should any new issues arise, which could be eliminated through discussions with applicant's representative, then the Examiner is invited to contact the undersigned by telephone in order that the further prosecution of this application can thereby be expedited.

Respectfully submitted,

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